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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,191	07/15/2003	Shinichi Imai	60188-578	4939
20277	7590	06/21/2006	EXAMINER	
MCDERMOTT WILL & EMERY LLP			VON BUHR, MARIA N	
600 13TH STREET, N.W.			ART UNIT	
WASHINGTON, DC 20005-3096			PAPER NUMBER	
			2125	

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/619,191	Applicant(s) IMAI ET AL.	
	Examiner Maria N. Von Buhr	Art Unit 2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2003 & 29 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20031029</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-34 are pending in this application.
2. Receipt is acknowledged of papers submitted under 35 U.S.C. §119(a)-(d), which papers have been placed of record in the file.
3. Examiner acknowledges receipt of Applicant's information disclosure statement, received 29 October 2006, with accompanying reference copies. This submission is in compliance with the provisions of 37 CFR §1.97. Accordingly, it has been taken into consideration for this Office action.
4. Examiner acknowledges receipt of Applicant's formal drawings. These drawings are acceptable.
5. The following is a quotation of the second paragraph of 35 U.S.C. §112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which Applicant regards as his invention.
6. Claims 3, 11, 21 and 29 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention, since the abbreviations are not defined within the claim language.
7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by Applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by Applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by Applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.
8. Claims 1, 2, 4-7, 9, 10, 12-15, 17-20, 22-25, 27, 28 and 30-33 are rejected under 35 U.S.C. §102(e) as being clearly anticipated by Funk et al. (U.S. Patent Application Publication No. 2005/0171627), which teaches a "method and system for monitoring tool performance for processing tools

in a semiconductor processing system. The semiconductor processing system includes a number of processing tools, a number of processing modules, a number of sensors, and an alarm management system. A tool health control strategy is executed in which tool health data for the processing tool is collected. A tool health analysis strategy is executed in which the tool health data is analyzed. An intervention manager can pause the processing tool when an alarm has occurred. The intervention manager refrains from pausing the processing tool when an alarm has not occurred” (the abstract).

As per the claims, Funk et al. teach that “facility control is often performed by a number of different control systems having a variety of controllers. Some of the control systems may have man-machine interfaces such as touch screens, while others may only collect and display one variable such as temperature. The monitoring system must be able to collect data tabulated for the process control system. The data collection of the monitoring system must handle univariate and multivariate data, the analysis and display of the data, and have the ability to select the process variables to collect. Various conditions in a process are monitored by different sensors provided in each of the process chambers, and data of the monitored conditions is transferred and accumulated in a control computer. If the process data is displayed and detected automatically, the optimum process conditions of a mass-production line can be set and controlled through statistical process control (SPC) charts. Inefficient monitoring of a facility can result in facility downtimes that add to the overall operational cost” (paragraph 7), and provide for “a tool status monitoring system for monitoring a processing tool in a semiconductor processing system, the tool status monitoring system comprising: a plurality of sensors coupled to the processing tool; means for executing a tool health control strategy including means for executing a data collection plan for collecting tool health data, and means for executing a data pre-processing plan for pre-processing the collected tool health data, the data collection plan comprising a sensor plan for controlling the data collected by the plurality of sensors; means for executing a tool health analysis strategy including means for executing a analysis plan for analyzing the tool health data and means for executing a judgment plan for determining if an alarm has occurred; and an intervention manager for pausing the processing tool when an alarm has occurred and refraining from pausing the processing tool when an alarm has not occurred” (paragraph 9). These functions are accomplished by an APC server that “comprises at least one computer and software that supports multiple process tools; collects and synchronizes data from tools, process modules, sensors, and probes; stores data in a database, enables the user to view existing charts; and provides fault detection. For example, APC server 160 can comprise operational software, such as the Ingenio software, from Tokyo Electron. The APC server allows online system configuration, online lot-to-lot fault detection, online wafer-to-wafer fault detection, online database management, and performs multivariate analysis of

summary data using models based upon historical data. In addition, the tool status monitoring system allows real-time monitoring of the processing tools” (paragraph 66). See also, at least, paragraphs 36, 38-43, 46, 55, 82-86 and 99.

9. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 11, 21 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over Funk et al. (U.S. Patent Application Publication No. 2005/0171627), as applied to claims 1, 9, 19 and 27 above, further in view of Funk (U.S. Patent Application Publication No. 2004/0267399).

Although Funk et al. teach Applicant’s invention substantially as instantly claimed, as addressed above, no mention is made of the instantly claimed “SECS, GEM, or HSMS.” In this regard, Funk teaches that “configurable items can be configured as a set of variable parameters sent from the factory system using general equipment module/semiconductor equipment communications standard (GEM SECS) communications protocol. For example, variable parameters can be passed as part of an "APC Recipe". An APC recipe may contain more than one sub recipes and each sub recipe can contain variable parameters” (paragraph 34). It would have been obvious, to one having ordinary skill in the art, at the time the instant invention was made, to utilize this communication protocol in the system of Funk et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

11. Claims 8, 16, 26 and 34 are rejected under 35 U.S.C. §103(a) as being unpatentable over Funk et al. (U.S. Patent Application Publication No. 2005/0171627), as applied to claims 1, 9, 19 and 27 above, further in view of Bourg, Jr. et al. (U.S. Patent Application Publication No. 2004/0091135).

Although Funk et al. teach Applicant’s invention substantially as instantly claimed, as addressed above, no mention is made of the instantly claimed “principal component analysis.” In this regard, Bourg, Jr. et al. teach a “method for extracting feature information from product images using multivariate image analysis based on Principal Component Analysis (PCA) which is used to develop predictive models for

feature content and distribution on the imaged product. The imaging system is used to monitor product quality variables in an on-line manufacturing environment. It may also be integrated into a closed-loop feedback control system in automated systems" (the abstract). It would have been obvious, to one having ordinary skill in the art, at the time the instant invention was made, to utilize this analysis in the system of Funk et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. §103(a), Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR §1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for Examiner to consider the applicability of 35 U.S.C. §103(c) and potential 35 U.S.C. §102(e), (f) or (g) prior art under 35 U.S.C. §103(a).

13. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Applicant is advised to carefully review the cited art, as evidence of the state of the art, in preparation for responding to this Office action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria N. Von Buhr whose telephone number is 571-272-3755. The examiner can normally be reached on M-F (9am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Maria N. Von Buhr
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Art Unit 2125